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10/717,521	11/21/2003	Boon Ho	200310819	8413

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EXAMINER	
HAILE, FEBEN	
ART UNIT	PAPER NUMBER
2616	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/717,521	HO ET AL.	
	Examiner	Art Unit	
	Feben M. Haile	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *December 17, 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In view of applicant's amendment filed December 17, 2007, the status of the application is still pending with reference to claims 1-37.

2. The amendment filed is insufficient to overcome the rejection of claims 1-37 based upon a further interpretation of Ofek et al. (US 2004/0083284), Liu et al. (US 7,197,660), and Yip et al. (US 6,954,436) set forth in the last Office action because the claim invention fails to clarify a distinction over the cited references, thus the subject matter is not patentable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3-6, 8-12, 14-17, 19-24, 26-29, and 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ofek et al. (US 2004/0083284), hereinafter referred to as Ofek, in view of Liu et al. (US 7,197,660), hereinafter referred to as Liu.

Regarding claims 1, Ofek discloses discovering a topology object model of the routers **(page 2 paragraph 0021; network topologies are determined and objects corresponding to elements in a domain are stored in a Topology Object Model)**; and displaying an indication of the detected condition **(page 2 paragraph 0021; a**

change in the status of an element is recorded in an associated entity object and the information contained in the Topology Object Model is graphically displayed).

Ofek fails to explicitly suggest detecting a condition of the at least one backup router group based on at least one threshold value.

Liu teaches detecting a condition of the at least one backup router group based on at least one threshold value **(a cluster of devices, i.e. figure 1 element 100, comprising a recovery system, i.e. figure 2, with a redundancy group, i.e. column 4 lines 21-30, for detecting failure within the cluster according to a threshold parameter, i.e. column 5 lines 17-25)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the recovery method taught by Liu into the system for providing data awareness disclosed by Ofek. The motivation for such a modification is the ability to respond quickly to failures without compromising throughput and interrupting service.

Regarding claim 3, Liu discloses wherein the detecting is also based on a number of backup router groups to which one of the routers belongs **(column 8 lines 49-51; each device may act as a master in one redundancy group while simultaneously serving as a backup in another redundancy group)**.

Regarding claim 4, Ofek discloses at least one network router node **(page 2 paragraph 0021; topology of elements in a network)**; at least one network interface for each at least one network router node **(page 2 paragraph 0023; physical**

representation such as a network interface card); at least one address for each at least one network interface **(figure 4; element IP address)**.

Liu teaches a state of each one of the at least one address that is internal to the backup router group **(figure 5 elements 510-530; state information of redundancy group, i.e. master and backup devices)**; and any tracked interfaces associated with each one of the at least one address that is internal to the backup router **(column 6 lines 40-44; each device maintains an IP interface)**.

Regarding claim 5, Liu discloses a state of at least one of the at least one address that is external to the backup router group **(column 5 lines 11-16; detecting failures such link connectivity due to cable or port failures)**.

Regarding claim 6, Liu discloses wherein the detecting is also based on a state of at least one of the at least one address that is external to the backup router group **(column 5 lines 11-16; detecting failures such link connectivity due to cable or port failures)**.

Regarding claim 9, Ofek discloses receiving status information from the routers **(page 2 paragraph 0021; a change in the status of an element)**; and updating the topology object model to reflect the received status information **(page 2 paragraph 0021; the status is recorded in the Topology Object Model)**.

Regarding claim 10, Liu discloses wherein the status information includes states associated with interface addresses within the at least one backup router group **(column 5 lines 17-25; detecting failures of devices within the group)**.

Regarding claim 11, Liu discloses wherein the status information includes status of tracked interfaces associated with routers organized in the at least one backup router group **(column 5 lines 17-25; detecting failures of devices within the group)**.

Regarding claim 12, Ofek discloses means for discovering a topology object model of the routers **(page 2 paragraph 0021; network topologies are determined and objects corresponding to elements in a domain are stored in a Topology Object Model)**; and means for displaying an indication of the detected condition **(page 2 paragraph 0021; a change in the status of an element is recorded in an associated entity object and the information contained in the Topology Object Model is graphically displayed)**.

Ofek fails to explicitly suggest means for detecting a condition of the at least one backup router group based on at least one threshold value.

Liu teaches means for detecting a condition of the at least one backup router group based on at least one threshold value **(a cluster of devices, i.e. figure 1 element 100, comprising a recovery system, i.e. figure 2, with a redundancy group, i.e. column 4 lines 21-30, for detecting failure within the cluster according to a threshold parameter, i.e. column 5 lines 17-25)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the recovery method taught by Liu into the system for providing data awareness disclosed by Ofek. The motivation for such a modification is the ability to respond quickly to failures without compromising throughput and interrupting service.

Regarding claim 14, Liu discloses wherein the detecting is also based on a number of backup router groups to which one of the routers belongs **(column 8 lines 49-51; each device may act as a master in one redundancy group while simultaneously serving as a backup in another redundancy group)**.

Regarding claim 15, Ofek discloses at least one network router node **(page 2 paragraph 0021; topology of elements in a network)**; at least one network interface for each at least one network router node **(page 2 paragraph 0023; physical representation such as a network interface card)**; at least one address for each at least one network interface **(figure 4; element IP address)**.

Liu teaches a state of each one of the at least one address that is internal to the backup router group **(figure 5 elements 510-530; state information of redundancy group, i.e. master and backup devices)**; and any tracked interfaces associated with each one of the at least one address that is internal to the backup router **(column 6 lines 40-44; each device maintains an IP interface)**.

Regarding claim 16, Liu discloses a state of at least one of the at least one address that is external to the backup router group **(column 5 lines 11-16; detecting failures such link connectivity due to cable or port failures)**.

Regarding claim 17, Liu discloses wherein the detecting is also based on a state of at least one of the at least one address that is external to the backup router group **(column 5 lines 11-16; detecting failures such link connectivity due to cable or port failures)**.

Regarding claim 20, Ofek discloses means receiving status information from the routers **(page 2 paragraph 0021; a change in the status of an element)**; and updating the topology object model to reflect the received status information **(page 2 paragraph 0021; the status is recorded in the Topology Object Model)**.

Regarding claim 21, Liu discloses wherein the status information includes states associated with interface addresses within the at least one backup router group **(column 5 lines 17-25; detecting failures of devices within the group)**.

Regarding claim 22, Liu discloses wherein the status information includes status of tracked interfaces associated with routers organized in the at least one backup router group **(column 5 lines 17-25; detecting failures of devices within the group)**.

Regarding claim 23, Ofek discloses the means discovering also receives status information from the routers and updates the topology object model to reflect the received status information **(page 2 paragraph 0021; a change in the status of an element is recorded in the Topology Object Model)**.

Regarding claim and 24, Ofek discloses discovering a topology object model of the routers **(page 2 paragraph 0021; network topologies are determined and objects corresponding to elements in a domain are stored in a Topology Object Model)**; and displaying an indication of the detected condition **(page 2 paragraph 0021; a change in the status of an element is recorded in an associated entity object and the information contained in the Topology Object Model is graphically displayed)**.

Ofek fails to explicitly suggest detecting a condition of the at least one backup router group based on at least one threshold value.

Liu teaches detecting a condition of the at least one backup router group based on at least one threshold value **(a cluster of devices, i.e. figure 1 element 100, comprising a recovery system, i.e. figure 2, with a redundancy group, i.e. column 4 lines 21-30; for detecting failure within the cluster according to a threshold parameter, i.e. column 5 lines 17-25)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the recovery method taught by Liu into the system for providing data awareness disclosed by Ofek. The motivation for such a modification is the ability to respond quickly to failures without compromising throughput and interrupting service.

Regarding claim 26, Liu discloses wherein the detecting is also based on a number of backup router groups to which one of the routers belongs **(column 8 lines 49-51; each device may act as a master in one redundancy group while simultaneously serving as a backup in another redundancy group)**.

Regarding claim 27, Ofek discloses at least one network router node **(page 2 paragraph 0021; topology of elements in a network)**; at least one network interface for each at least one network router node **(page 2 paragraph 0023; physical representation such as a network interface card)**; at least one address for each at least one network interface **(figure 4; element IP address)**.

Liu teaches a state of each one of the at least one address that is internal to the backup router group **(figure 5 elements 510-530; state information of redundancy group, i.e. master and backup devices)**; and any tracked interfaces associated with each one of the at least one address that is internal to the backup router **(column 6 lines 40-44; each device maintains an IP interface)**.

Regarding claim 28, Liu discloses a state of at least one of the at least one address that is external to the backup router group **(column 5 lines 11-16; detecting failures such link connectivity due to cable or port failures)**.

Regarding claim 29, Liu discloses wherein the detecting is also based on a state of at least one of the at least one address that is external to the backup router group **(column 5 lines 11-16; detecting failures such link connectivity due to cable or port failures)**.

Regarding claim 32, Ofek discloses receiving status information from the routers **(page 2 paragraph 0021; a change in the status of an element)**; and updating the topology object model to reflect the received status information **(page 2 paragraph 0021; the status is recorded in the Topology Object Model)**.

Regarding claim 33, Liu discloses wherein the status information includes states associated with interface addresses within the at least one backup router group **(column 5 lines 17-25; detecting failures of devices within the group)**.

Regarding claim 34, Liu discloses wherein the status information includes status of tracked interfaces associated with routers organized in the at least one backup router group **(column 5 lines 17-25; detecting failures of devices within the group)**.

Regarding claim 35, Ofek discloses at least one network node object representing an element in the network **(page 2 paragraph 0021; network topologies are determined and objects corresponding to elements in a domain are stored in a Topology Object Model)**; at least one network interface object for each at least one network node object, the at least one network interface object representing an interface of the network element corresponding to the each at least one network node object **(page 2 paragraph 0023; the Topology Object Model include a physical element representation such as a network interface card)**; an address object for each at least one network interface object, representing an address of the corresponding interface **(figure 4; the Topology Object Model include an elements IP address)**.

Ofek fails to explicitly suggest a backup routing protocol group object representing network elements organized in a backup routing protocol group, the backup routing protocol group object including a virtual address of the backup routing protocol group and real addresses of the network elements in the backup routing protocol group; and an address state object for each of the real addresses of the network elements in the backup routing protocol group, including a state of the corresponding address.

Liu teaches a backup routing protocol group object representing network elements organized in a backup routing protocol group, the backup routing protocol group object including a virtual address of the backup routing protocol group and real addresses of the network elements in the backup routing protocol group **(a cluster of devices, i.e. figure 1 element 100, comprising a recovery system, i.e. figure 2, with**

a redundancy group, i.e. column 4 lines 21-30, wherein each device has its own IP and MAC address, i.e. column 10 lines 36-34); and an address state object for each of the real addresses of the network elements in the backup routing protocol group, including a state of the corresponding address **(figure 5 elements 510-530; state information of redundancy group)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the recovery method taught by Liu into the system for providing data awareness disclosed by Ofek. The motivation for such a modification is the ability to respond quickly to failures without compromising throughput and interrupting service.

Regarding claim 36, Liu discloses a track interface object corresponding to a tracked network interface of a first network element in the backup routing protocol group wherein the tracked network interface is located between the first network element and a network element outside the backup routing protocol group **(column 5 lines 11-16; detecting failures such link connectivity due to cable or port failures)**.

4. Claims 2, 7, 13, 18, 25, and 30 rejected under 35 U.S.C. 103(a) as being unpatentable over Ofek et al. (US 2004/0083284), hereinafter referred to as Ofek, in view of Liu et al. (US 7,197,660), hereinafter referred to as Liu, in view of Yip et al. (US 6,954,436), hereinafter referred to as Yip.

Regarding claim 2, Ofek as modified by Liu disclose the limitations of the base claims.

However, Ofek, Liu, and/or their combination fail to explicitly suggest wherein the at least one threshold value includes a minimum number of available routers in a backup router group.

Yip teaches the at least one threshold value includes a minimum number of available routers in a backup router group **(column 4 lines 30-40; ping tracking parameter representative of active routers)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate method of using tracking to select redundant routers taught by Yip into the system for providing data awareness disclosed by Ofek as modified by the recovery method suggested by Liu. The motivation for such a modification is avoiding erroneously selection of a router that cannot communicate.

Regarding claim 7, Ofek as modified by Liu disclose the limitations of the base claims.

However, Ofek, Liu, and/or their combination fail to explicitly suggest wherein the condition is a minimum number of functional routers available in a corresponding backup router group.

Yip teaches wherein the condition is a minimum number of functional routers available in a corresponding backup router group **(column 4 lines 50-51; diagnostic parameter representative of the functionality of routers)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate method of using tracking to select redundant routers taught by Yip into the system for providing data awareness disclosed by Ofek as

modified by the recovery method suggested by Liu. The motivation for such a modification is avoiding erroneously selection of a router that cannot communicate.

Regarding claim 8, Ofek as modified by Liu disclose the limitations of the base claims.

However, Ofek, Liu, and/or their combination fail to explicitly suggest wherein the condition is a minimum of functional routers available only in a corresponding backup router group.

Yip teaches wherein the condition is a minimum of functional routers available only in a corresponding backup router group **(column 4 lines 50-51; diagnostic parameter representative of the functionality of routers)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate method of using tracking to select redundant routers taught by Yip into the system for providing data awareness disclosed by Ofek as modified by the recovery method suggested by Liu. The motivation for such a modification is avoiding erroneously selection of a router that cannot communicate.

Regarding claim 13, Ofek as modified by Liu disclose the limitations of the base claims.

However, Ofek, Liu, and/or their combination fail to explicitly suggest wherein the at least one threshold value includes a minimum number of available routers in a backup router group.

Yip teaches wherein the at least one threshold value includes a minimum number of available routers in a backup router group **(column 4 lines 30-40; ping tracking parameter representative of active routers)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate method of using tracking to select redundant routers taught by Yip into the system for providing data awareness disclosed by Ofek as modified by the recovery method suggested by Liu. The motivation for such a modification is avoiding erroneously selection of a router that cannot communicate.

Regarding claim 18, Ofek as modified by Liu disclose the limitations of the base claims.

However, Ofek, Liu, and/or their combination fail to explicitly suggest wherein the condition is a minimum number of functional routers available in a corresponding backup router group.

Yip teaches a method for using a standby router protocol to determine the routers position as master or slave according to parameters such as a metric of the state of the functionality of the router **(column 4 lines 50-51; diagnostic parameter representative of the functionality of routers)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate method of using tracking to select redundant routers taught by Yip into the system for providing data awareness disclosed by Ofek as modified by the recovery method suggested by Liu. The motivation for such a modification is avoiding erroneously selection of a router that cannot communicate.

Regarding claim 19, Ofek as modified by Liu disclose the limitations of the base claims.

Yip teaches a method for using a standby router protocol to determine the routers position as master or slave according to parameters such as a metric of the state of the functionality of the router **(column 4 lines 50-51; diagnostic parameter representative of the functionality of routers)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate method of using tracking to select redundant routers taught by Yip into the system for providing data awareness disclosed by Ofek as modified by the recovery method suggested by Liu. The motivation for such a modification is avoiding erroneously selection of a router that cannot communicate.

Regarding claim 25, Ofek as modified by Liu disclose the limitations of the base claims.

However, Ofek, Liu, and/or their combination fail to explicitly suggest wherein the at least one threshold value includes a minimum number of available routers in a backup router group.

Yip teaches a method for using a standby router protocol to determine the routers position as master or slave according to parameters such as a metric of active routers **(column 4 lines 30-40; ping tracking parameter representative of active routers)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate method of using tracking to select redundant routers

taught by Yip into the system for providing data awareness disclosed by Ofek as modified by the recovery method suggested by Liu. The motivation for such a modification is avoiding erroneously selection of a router that cannot communicate.

Regarding claim 30, Ofek as modified by Liu disclose the limitations of the base claims.

However, Ofek, Liu, and/or their combination fail to explicitly suggest wherein the condition is a minimum number of functional routers available in a corresponding backup router group.

Yip teaches a method for using a standby router protocol to determine the routers position as master or slave according to parameters such as a metric of the state of the functionality of the router **(column 4 lines 50-51; diagnostic parameter representative of the functionality of routers)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate method of using tracking to select redundant routers taught by Yip into the system for providing data awareness disclosed by Ofek as modified by the recovery method suggested by Liu. The motivation for such a modification is avoiding erroneously selection of a router that cannot communicate.

Regarding claim 31, Ofek as modified by Liu disclose the limitations of the base claims.

Yip teaches a method for using a standby router protocol to determine the routers position as master or slave according to parameters such as a metric of the

state of the functionality of the router **(column 4 lines 50-51; diagnostic parameter representative of the functionality of routers)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate method of using tracking to select redundant routers taught by Yip into the system for providing data awareness disclosed by Ofek as modified by the recovery method suggested by Liu. The motivation for such a modification is avoiding erroneously selection of a router that cannot communicate.

Response to Arguments

5. Applicant's arguments filed December 17, 2007 have been fully considered but they are not persuasive.

The Applicant respectfully traverses there is no teaching or suggestion by Ofek of any mechanism for discovering topology information concerning routers. The Examiner respectfully disagrees. Ofek teaches a method of determining network topologies and objects corresponding to elements in a Topology Object Model **(page 2 paragraph 0021)**, where elements include a physical component such as a switch **(page 2 paragraph 0023)**, and graphically presenting the information stored in the Topology Object Model **(figure 4)**. It would have been obvious to one having ordinary skill in the art at the time of the invention was made the equivalence of a router and switch for their use in the art of forwarding data and the selection of either for discovering their topology information would be within the level of ordinary skill in the art.

The Applicant respectfully traverses that either Ofek or Liu fails to provide teaching or suggestion of detecting a condition of at least one backup router group

based on a threshold value. The Examiner respectfully disagrees. In the previous office action, the Examiner relied upon column 8 lines 10-29 to show that Liu suggested this particular feature. However, for clarification purposes, the Examiner will provide a further interpretation of the reference. Liu teaches a cluster of devices **(figure 1 element 100)** comprising a recovery system **(figure 2)** with a redundancy group **(column 4 lines 21-30)** for detecting failure within the cluster according to a threshold parameter **(column 5 lines 17-25)**. Thus monitoring the group for failures, i.e. column 8 lines 10-29, relates to the failure threshold parameter, i.e. column 5 lines 17-25.

The Examiner contends that (1) the Ofek patent deals with the display of router information, i.e. switch Topology Object Model, and (2) Liu deals with (1) the use of a backup router group, i.e. redundancy group, and (2) detecting condition of the group based on threshold, i.e. device failure threshold parameter. Therefore as the claims are interpreted in their broadest sense, the Examiner believes that the Ofek patent as modified by the Liu patent for the motivation to respond quickly to failures without compromising throughput and interrupting service indeed does render the Applicant's invention obvious.

Conclusion

6. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M. Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 10:00am - 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung S. Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Feben M Haile/
Examiner, Art Unit 2616

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2616